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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/658,172	09/08/2003	Satyanarayan R. Panpaliya	CM05887J	3335
22917	7590	04/21/2006	EXAMINER	
MOTOROLA, INC. 1303 EAST ALGONQUIN ROAD IL01/3RD SCHAUMBURG, IL 60196			DEAN, RAYMOND S	
			ART UNIT	PAPER NUMBER
			2618	

DATE MAILED: 04/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/658,172	PANPALIYA ET AL.	
	Examiner	Art Unit	
	Raymond S. Dean	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 - 17 is/are rejected.
- 7) ☒ Claim(s) 1,8,14 and 15 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 December 2003 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>0505</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1: Claims 1, 8, 14, and 15 are objected to because of the following informalities: the phrase "talk round mode" should be changed to "talk around mode". Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 – 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schroderus et al. (5,822,682) in view of Chen et al. (US 2003/0134655).

Regarding Claim 1, Schroderus teaches a method of transmit power control during a group call to a plurality of devices comprising the steps of: at a receiving device in a time division multiplexing system wherein the receiving device is in the group call in talk around mode (Figure 1, Column 4 lines 57 – 59, Column 5 lines 36 – 39, there are time slots thus there will be some kind of time division multiplexing); receiving a signal on a forward channel (Column 5 lines 63 – 67); estimating a signal

quality for the signal received on the forward channel (Column 6 lines 1 – 3, field strength is a signal quality metric).

Schroderus does not teach if the signal quality is below a threshold, transmitting a power control message on at least a portion of a single reverse channel, wherein the power control message requests an increase in transmit power for subsequently received signals.

Chen teaches a dispatch system in which if the signal quality is below a threshold, transmitting a power control message on at least a portion of a single reverse channel, wherein the power control message requests an increase in transmit power for subsequently received signals (Sections: 0016 – 0018, 0065).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Schroderus with the power control method of Chen for the purpose of ensuring that a desired quality of service (QoS) is delivered to the mobile devices as taught by Chen.

Regarding Claim 2, Schroderus in view of Chen teaches all of the claimed limitations recited in Claim 1. Chen further teaches continually transmitting the power control message until a signal quality of a subsequently received signal on the forward channel exceeds a second threshold (Section 0067).

Regarding Claim 3, Schroderus in view of Chen teaches all of the claimed limitations recited in Claim 1. Chen further teaches wherein the signal quality is based on at least one of the following measurements: a bit error rate, a message error rate, a

frame error rate, a received signal strength indicator, a symbol error rate, a waveform eye opening, a frequency lock and a time lock (Section 0065).

Regarding Claim 4, Schroderus in view of Chen teaches all of the claimed limitations recited in Claim 1. Chen further teaches wherein the power control message is transmitted along with control symbols (Section 0070).

Regarding Claim 5, Schroderus in view of Chen teaches all of the claimed limitations recited in Claim 1. Chen further teaches wherein the power control message is transmitted along with synchronization symbols and control symbols (Section 0070).

Regarding Claim 6, Schroderus in view of Chen teaches all of the claimed limitations recited in Claim 1. Chen further teaches wherein the power control message further provides synchronization (Section 0070).

Regarding Claim 7, Schroderus in view of Chen teaches all of the claimed limitations recited in Claim 1. Chen further teaches if the signal quality is above the threshold, not transmitting a power control message on at least a portion of the single reverse channel (Section 0067).

Regarding Claim 8, Schroderus teaches a method of transmit power control during a group call to a plurality of devices comprising the steps of: at a transmitting device in a time division multiplexing system wherein the transmitting device is in the group call in talk around mode (Figure 1, Column 4 lines 57 – 59, Column 5 lines 36 – 39, there are time slots thus there will be some kind of time division multiplexing); transmitting at least one signal on a forward channel at a transmit power level

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(Columns: 5 lines 42 – 45, lines 63 – 67, 6 lines 1 – 5); wherein the single reverse channel is shared by a plurality of receiving devices (Column 5 lines 31 – 39, the direct mode channel is shared via time slots).

Schroderus does not teach adjusting the transmit power level based on observing a single reverse channel.

Chen teaches adjusting the transmit power level based on observing a single reverse channel (Section 0065).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Schroderus with the power control method of Chen for the purpose of ensuring that a desired quality of service (QoS) is delivered to the mobile devices as taught by Chen.

Regarding Claim 9, Schroderus in view of Chen teaches all of the claimed limitations recited in Claim 8. Chen further teaches wherein the transmit power level is adjusted by a step size (Section 0065, the power will be adjusted by a particular increment, which is the step size).

Regarding Claim 10, Schroderus in view of Chen teaches all of the claimed limitations recited in Claim 8. Chen further teaches increasing the transmit power level when a presence of a predetermined number of power control messages is observed on the single reverse channel within a window of time (Section 0065).

4. Claims 11 – 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schroderus et al. (5,822,682) in view of Chen et al. (US 2003/0134655) as applied to Claim 8 above, and further in view of Komatsu (5,852,782).

Regarding Claim 11, Schroderus in view of Chen teaches all of the claimed limitations recited in Claim 8. Chen further teaches a non-presence of a predetermined number of power control messages is observed on the reverse channel within a window of time (Section 0067).

Schroderus in view of Chen does not teach decreasing the transmit power level when a non-presence of a predetermined number of power control messages is observed on the reverse channel within a window of time (Section 0067).

Komatsu teaches decreasing the transmit power level (Column 6 lines 24 – 27).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Schroderus in view of Chen with the decrease in power method of Komatsu for the purpose of maintaining a particular quality or grade of services such as a particular carrier to interference ratio as taught by Komatsu.

Regarding Claim 12, Schroderus in view of Chen teaches all of the claimed limitations recited in Claim 8. Chen further teaches a non-presence of a predetermined number of power control messages is observed on the reverse channel within a window of time (Section 0067).

Schroderus in view of Chen does not teach detecting a transmit power oscillation; setting an oscillation counter to a predetermined value based on the

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transmit power oscillation, wherein the predetermined value is a non-zero integer; decrementing the oscillation counter value when a non-presence of a predetermined number of power control messages is observed on the reverse channel within a window of time; and decreasing the transmit power level by a predetermined step size.

Komatsu teaches detecting a transmit power oscillation (Figures 5A, 5B, Columns: 7 lines 62 – 67, lines 1 – 53, oscillatory change of the transmit power); setting an oscillation counter to a predetermined value based on the transmit power oscillation (Figures 5A, 5B, Columns: 7 lines 62 – 67, lines 1 – 53, keeps track of oscillatory changes in the transmit power thus there will be a counter that sets a corresponding value such that said tracking is maintained), wherein the predetermined value is a non-zero integer (Figures 5A, 5B, Columns: 7 lines 62 – 67, lines 1 – 53, keeps track of oscillatory changes in the transmit power thus there will be a counter that sets a corresponding value such that said tracking is maintained); decrementing the oscillation counter value (Figures 5A, 5B, Columns: 7 lines 62 – 67, lines 1 – 53, keeps track of oscillatory changes in the transmit power thus there will be a counter that sets a corresponding value such that said tracking is maintained); and decreasing the transmit power level by a predetermined step size (Column 6 lines 24 – 27).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Schroderus in view of Chen with the oscillation method of Komatsu for the purpose of restraining the oscillation or fluctuation in power thus restraining the increase in control error of the transmission power which deteriorates the signal quality as taught by Komatsu.

Regarding Claim 13, Schroderus in view of Chen and in further view of Komatsu teaches all of the claimed limitations recited in Claim 12. Komatsu further teaches wherein the predetermined step size is a minimum value (Column 6 lines 24 – 27).

Regarding Claim 14, Schroderus teaches a method of transmit power control during a group call to a plurality of devices comprising the steps of: at a transmitting device in a time division multiplexing system wherein the transmitting device is in the group call in talk around mode (Figure 1, Column 4 lines 57 – 59, Column 5 lines 36 – 39, there are time slots thus there will be some kind of time division multiplexing); transmitting signals on a forward channel at a transmit power level (Columns: 5 lines 42 – 45, lines 63 – 67, 6 lines 1 – 5).

Schroderus does not teach switching between three power states based on one of: a presence of X power control messages on a reverse channel within a first window of time, or a non-presence of Y power control messages on the reverse channel within a second window of time; and dynamically adjusting the transmit power level for subsequent signals based on a current power state, wherein a first power state is to maintain a current transmit power level, a second power state is to decrease the current transmit power level, and the third power state is to increase the current transmit power level, and wherein X and Y are integer values.

Chen teaches switching between at least one power state based on one of: a presence of X power control messages on a reverse channel within a first window of time, or a non-presence of Y power control messages on the reverse channel within a second window of time (Section 0065); and dynamically adjusting the transmit power

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level for subsequent signals based on a current power state (Section 0065), wherein a first power state is to maintain a current transmit power level (Section 0067, the power level will be maintained for the subscribers that abstain from feeding back the power control message), and the third power state is to increase the current transmit power level, and wherein X and Y are integer values (Section 0065).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Schroderus with the power control method of Chen for the purpose of ensuring that a desired quality of service (QoS) is delivered to the mobile devices as taught by Chen.

Schroderus in view of Chen does not teach a second power state that is to decrease the current transmit power level.

Komatsu teaches a power state that is to decrease the current transmit power level (Column 6 lines 24 – 27).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Schroderus in view of Chen with the decrease in power method of Komatsu for the purpose of maintaining a particular quality or grade of services such as a particular carrier to interference ratio as taught by Komatsu.

Regarding Claim 15, Schroderus teaches a method of transmit power control during a group call to a plurality of devices comprising the steps of: at a transmitting device in a time division multiplexing system wherein the transmitting device is in the group call in talk around mode (Figure 1, Column 4 lines 57 – 59, Column 5 lines 36 –

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39, there are time slots thus there will be some kind of time division multiplexing); setting a transmit power level to a predetermined power level (Columns: 5 lines 42 – 45, lines 63 – 67, 6 lines 1 – 5); transmitting at least one signal on a forward channel at a the predetermined power level (Columns: 5 lines 42 – 45, lines 63 – 67, 6 lines 1 – 5).

Schroderus does not teach if a first predetermined number of power control messages are detected on a reverse channel within a first time frame, increasing the transmit power level for subsequent signals; if a second predetermined number of power control messages are not detected on the reverse channel within a second time frame, decreasing the transmit power level for subsequent signals; otherwise, maintaining the transmit power level.

Chen teaches if a first predetermined number of power control messages are detected on a reverse channel within a first time frame, increasing the transmit power level for subsequent signals (Section 0065); if a second predetermined number of power control messages are not detected on the reverse channel within a second time frame, maintaining the transmit power level (Section 0067, the power level will be maintained for the subscribers that abstain from feeding back the power control message).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Schroderus with the power control method of Chen for the purpose of ensuring that a desired quality of service (QoS) is delivered to the mobile devices as taught by Chen.

Schroderus in view of Chen does not teach if a second predetermined number of power control messages are not detected on the reverse channel within a second time frame, decreasing the transmit power level for subsequent signals.

Komatsu teaches decreasing the transmit power level for subsequent signals (Column 6 lines 24 – 27).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Schroderus in view of Chen with the decrease in power method of Komatsu for the purpose of maintaining a particular quality or grade of services such as a particular carrier to interference ratio as taught by Komatsu.

Regarding Claim 16, Schroderus in view of Chen and in further view of Komatsu teaches all of the claimed limitations recited in Claim 15. Schroderus further teaches wherein the predetermined power level is a maximum power level (Columns: 5 lines 42 – 45, lines 63 – 67, 6 lines 1 – 5, the radio units will have maximum and minimum power levels at which they can transmit).

Regarding Claim 17, Schroderus in view of Chen and in further view of Komatsu teaches all of the claimed limitations recited in Claim 15. Schroderus further teaches wherein the predetermined power level is a minimum power level (Columns: 5 lines 42 – 45, lines 63 – 67, 6 lines 1 – 5, the radio units will have maximum and minimum power levels at which they can transmit).

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Raymond S. Dean whose telephone number is 571-272-7877. The examiner can normally be reached on Monday-Friday 6:00-2:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward F. Urban can be reached on 571-272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). **PLEASE NOTE:** Art Unit 2684 is now Division 2618.



Raymond S. Dean
April 4, 2006



EDWARD F. URBAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600